WHAT IS CLAIMED IS:

1. An ultrasound bandage which comprises:

a) a backing layer possessing upper and lower surfaces;

b) an adhesive layer applied to, and substantially coextensive with, the lower surface of the backing layer; and,

c) a transducer material disposed on at least a portion of the adhesive layer.

2. The ultrasound bandage of Claim 1 wherein the backing layer is a polyurethane film.

3. The ultrasound bandage of Claim 1 wherein the adhesive layer is fabricated from a material selected from the group consisting of polyacrylic resin, polyvinylether resin and polyurethane resin.

4. The ultrasound bandage of Claim 1 wherein the transducer material comprises a fiber sheet formed from a composition containing a piezoelectric material.

5. The ultrasound bandage of Claim 4 wherein the fiber sheet is a fabric woven from one or more fibers containing a piezoelectric material.

6. The ultrasound bandage of Claim 4 wherein the piezoelectric material is selected from the group consisting of PZT powders, ceramic, PVDF, lead zirconate titanate $Pb(Zr,Ti)O_3$, lead metaniobate $Pb(Nb_2O_6)$, modified lead titanate $PbTi_3$, $(Pb,Ca)TiO_3$, $(Pb,Sm)TiO_3$, barium titanate $BaTiO_3$, PMN-PT$(1-x)Pb(Mg_{1/3},Nb_{2/3})O_3$-$xPbTiO_3$, PZN-PT/BT $Pb(Zn_{1/3},Nb_{2/3})O_3$-$xPbTiO_3$-$BaTiO_3$, $(1-x)Pb(Zn_{1/3},Nb_{2/3})O_3$-$x(yPbTiO_3-(1-y)PbZrO_3)$ and mixtures thereof.

7. The ultrasound bandage of Claim 4 wherein the fiber sheet is knitted, braided or woven from extruded fibers containing a piezoelectric material.

8. The ultrasound bandage of Claim 4 wherein the extruded fibers possess a coating formed thereon.

9. The ultrasound bandage of Claim 8 wherein the coating comprises a film-forming polymer solution.

10. The ultrasound bandage of Claim 9 wherein the film-forming polymer solution contains a mixture of a polyvinyl alcohol and polyvinyl acetate as a major component thereof and polyethylene glycol as a minor component thereof.

11. The ultrasound bandage of Claim 1 further comprising an electrode surface applied to, and substantially coextensive with, opposite surfaces of the transducer material and a matching layer applied to, and substantially coextensive with, one of the electrode surfaces.

12. The ultrasound bandage of Claim 11 wherein the matching layer comprises a polymeric material and optionally a filler.

13. The ultrasound bandage of Claim 12 wherein the polymeric material is selected from the group consisting of thermoplastics, thermosets, rubbers, epoxy and mixtures thereof.

14. The ultrasound bandage of Claim 12 wherein the matching layer includes a filler selected from the group consisting of PZT, tungsten, alumina, silica glass, tungsten carbide and titanium.

15. The ultrasound bandage of Claim 12 wherein the matching layer includes glass powder as a filler.

16. The ultrasound bandage of Claim 11 wherein the matching layer has an acoustic impedance of from about 2.0 to about 7.0 MRayls.

17. The ultrasound bandage of Claim 11 further comprising a coupling pad applied to, and substantially coextensive with, the matching layer.

18. The ultrasound bandage of Claim 17 wherein the coupling pad is a hydrogel pad.

19. The ultrasound bandage of Claim 17 wherein the coupling pad is configured as a wedge to direct a longitudinal wave from the transducer material off-axis for to an internal designated reflection site and/or for modal conversion.

20. The ultrasound bandage of Claim 1 further comprising connector assemblies having connectors and leads, the connectors detachably connect leads to the transducer material and the leads are coupled to a portable main operating unit.

21. The ultrasound bandage of Claim 19 further comprising a cover covering the adhesive layer and the coupling pad and being applied to the adhesive layer.

22. A method for manufacturing an ultrasound bandage which comprises:

a) providing a backing layer possessing upper and lower surfaces;

b) applying an adhesive layer to, and substantially coextensive with, the lower surface of the backing layer; and,

c) disposing a transducer material on at least a portion of the adhesive layer.

23. The method of Claim 22 wherein the backing layer is a polyurethane film.

24. The method of Claim 22 wherein the adhesive layer is fabricated from a material selected from the group consisting of polyacrylic resin, polyvinylether resin and polyurethane resin.

25. The method of Claim 22 wherein the transducer material comprises a fiber sheet formed from a composition containing a piezoelectric material.

26. The method of Claim 25 wherein the fiber sheet is a fabric woven from one or more fibers containing a piezoelectric material.

27. The method of Claim 25 wherein the piezoelectric material is selected from the group consisting of PZT powders, ceramic, PVDF, lead zirconate titanate $Pb(Zr,Ti)O_3$, lead metaniobate $Pb(Nb_2O_6)$, modified lead titanate $PbTi_3$, $(Pb,Ca)TiO_3$, $(Pb,Sm)TiO_3$, barium titanate $BaTiO_3$, PMN-PT$(1-x)Pb(Mg_{1/3},Nb_{2/3})O_3$-$xPbTiO_3$, PZN-PT/BT $Pb(Zn_{1/3},Nb_{2/3})O_3$-$xPbTiO_3$-$BaTiO_3$, $(1-x)Pb(Zn_{1/3},Nb_{2/3})O_3$-$x(yPbTiO_3$-$(1-y)PbZrO_3)$ and mixtures thereof.

28. The method of Claim 25 wherein the extruded fibers possess a coating formed thereon.

29. The method of Claim 28 wherein the coating comprises a film-forming polymer solution.

30. The method of Claim 29 wherein the film-forming polymer solution contains a mixture of a polyvinyl alcohol and polyvinyl acetate as a major component thereof and polyethylene glycol as a minor component thereof.

31. The method of Claim 22 further comprising an electrode surface applied to, and substantially coextensive with, opposite surfaces of the transducer material and a matching layer applied to, and substantially coextensive with, one of the electrode surfaces.

32. The method of Claim 31 wherein the matching layer comprises a polymeric material and optionally a filler.

33. The method of Claim 32 wherein the polymeric material is selected from the group consisting of thermoplastics, thermosets, rubbers, epoxy and mixtures thereof.

34. The method of Claim 32 wherein the matching layer includes a filler selected from the group consisting of PZT, tungsten, alumina, silica glass, tungsten carbide and titanium.

35. The method of Claim 32 wherein the matching layer includes glass powder as a filler.

36. The method of Claim 31 wherein the matching layer has an acoustic impedance of from about 2.0 to about 7.0 MRayls.

37. The method of Claim 31 further comprising applying a coupling pad to, and substantially coextensive with, the matching layer.

38. The method of Claim 37 wherein the coupling pad is a hydrogel pad.

39. The method of Claim 37 wherein the coupling pad is configured as a wedge to direct a longitudinal wave from the transducer material off-axis for to an internal designated reflection site and/or for modal conversion.

40. The method of Claim 22 further comprising connecting connector assemblies having connectors and leads to the transducer material of the ultrasonic bandage.

41. An ultrasound transducer array bandage which comprises:

a) a backing layer possessing upper and lower surfaces;

b) an adhesive layer applied to, and substantially coextensive with, the lower surface of the backing layer;

c) an array comprising a plurality of transducer materials arranged in adjacent relation to define spaces therebetween, the array being disposed on at least a portion of the adhesive layer; and,

d) a connector assembly applied to the array.

42. The ultrasound transducer array bandage of Claim 41 wherein the backing layer is a polyurethane film.

43. The ultrasound transducer array bandage of Claim 41 wherein the adhesive layer is fabricated from a material selected from the group consisting of polyacrylic resin, polyvinylether resin and polyurethane resin.

44. The ultrasound transducer array bandage of Claim 41 wherein each transducer material comprises a fiber sheet formed from a composition containing a piezoelectric material.

45. The ultrasound transducer array bandage of Claim 44 wherein the fiber sheet is a fabric woven from one or more extruded fibers containing a piezoelectric

material.

46. The ultrasound transducer array bandage of Claim 44 wherein the piezoelectric material is selected from the group consisting of PZT powders, ceramic, PVDF, lead zirconate titanate $Pb(Zr,Ti)O_3$, lead metaniobate $Pb(Nb_2O_6)$, modified lead titanate $PbTi_3$, $(Pb,Ca)TiO_3$, $(Pb,Sm)TiO_3$, barium titanate $BaTiO_3$, PMN-PT(1-x)$Pb(Mg_{1/3},Nb_{2/3})O_3$-x$PbTiO_3$, PZN-PT/BT $Pb(Zn_{1/3},Nb_{2/3})O_3$-x$PbTiO_3$-$BaTiO_3$, (1-x)$Pb(Zn_{1/3},Nb_{2/3})O_3$-x(y$PbTiO_3$-(1-y)$PbZrO_3$) and mixtures thereof.

47. The ultrasound transducer array bandage of Claim 44 wherein the fiber sheet is knitted, braided or woven from extruded fibers containing a piezoelectric material.

48. The ultrasound transducer array bandage of Claim 44 wherein the extruded fibers possess a coating formed thereon.

49. The ultrasound transducer array bandage of Claim 48 wherein the coating comprises a film-forming polymer solution.

50. The ultrasound transducer array bandage of Claim 49 wherein the film-forming polymer solution contains a mixture of a polyvinyl alcohol and polyvinyl acetate as a major component thereof and polyethylene glycol as a minor component thereof.

51. The ultrasound transducer array bandage of Claim 41 further comprising an electrode surface applied to, and substantially coextensive with, opposite surfaces of each transducer material and a matching layer applied to, and substantially coextensive with, one of the electrode surfaces.

52. The ultrasound transducer array bandage of Claim 51 wherein the matching layer comprises a polymeric material and optionally a filler.

53. The ultrasound transducer array bandage of Claim 52 wherein the polymeric material is selected from the group consisting of thermoplastics, thermosets, rubbers, epoxy and mixtures thereof.

54. The ultrasound transducer array bandage of Claim 52 wherein the matching layer includes a filler selected from the group consisting of PZT, tungsten, alumina, silica glass, tungsten carbide and titanium.

55. The ultrasound transducer array bandage of Claim 52 wherein the matching layer includes glass powder as a filler.

56. The ultrasound bandage of Claim 51 wherein the matching layer has an acoustic impedance of from about 2.0 to about 7.0 MRayls.

57. The ultrasound transducer array bandage of Claim 51 further comprising a coupling pad applied to, and substantially coextensive with, the matching layer.

58. The ultrasound transducer array bandage of Claim 57 wherein the coupling pad is a hydrogel pad.

59. The ultrasound transducer array bandage of Claim 57 wherein the coupling pad is configured as a wedge to direct a longitudinal wave from each transducer material off-axis for to an internal designated reflection site and/or for modal conversion.

60. The ultrasound transducer array bandage of Claim 41 wherein the connector assemblies comprise connectors and leads, the connectors detachably connect leads to the array and the leads are coupled to a portable main operating unit.

61. The ultrasound transducer array bandage of Claim 41 further comprising a cover covering the adhesive layer and the coupling pad and being applied to the adhesive layer.

62. A method for manufacturing an ultrasound transducer array bandage which comprises:

a) providing a backing layer possessing upper and lower surfaces;

b) applying an adhesive layer to, and substantially coextensive with, the lower surface of the backing layer;

c) disposing an array comprising a plurality of transducer materials arranged in adjacent relation to define spaces therebetween on at least a portion of the adhesive layer; and,

d) applying a connector assembly to the array.

63. The method of Claim 62 wherein the backing layer is a polyurethane film.

64. The method of Claim 62 wherein the adhesive layer is fabricated from a material selected from the group consisting of polyacrylic resin, polyvinylether resin and polyurethane resin.

65. The method of Claim 62 wherein each transducer material comprises a fiber sheet formed from a composition containing a piezoelectric material.

66. The method of Claim 65 wherein the piezoelectric material is selected from the group consisting of PZT powders, ceramic, PVDF, lead zirconate titanate $Pb(Zr,Ti)O_3$, lead metaniobate $Pb(Nb_2O_6)$, modified lead titanate $PbTi_3$, $(Pb,Ca)TiO_3$, $(Pb,Sm)TiO_3$, barium titanate $BaTiO_3$, PMN-PT $(1-x)Pb(Mg_{1/3},Nb_{2/3})O_3-xPbTiO_3$, PZN-PT/BT $Pb(Zn_{1/3},Nb_{2/3})O_3-xPbTiO_3-BaTiO_3$, $(1-x)Pb(Zn_{1/3},Nb_{2/3})O_3-x(yPbTiO_3-(1-y)PbZrO_3)$ and mixtures thereof.

67. The method of Claim 65 wherein the fiber sheet is a fabric woven from one or more fibers containing a piezoelectric material.

68. The method of Claim 65 further comprising the step of forming the fiber sheet by knitting, braiding or weaving the extruded fibers.

69. The method of Claim 68 further comprising applying a coating to the extruded fibers prior to forming the fiber sheet.

70. The method of Claim 69 wherein the coating comprises a film-forming polymer solution.

71. The method of Claim 70 wherein the film-forming polymer solution contains a mixture of a polyvinyl alcohol and polyvinyl acetate as a major component thereof and polyethylene glycol as a minor component thereof.

72. The method of Claim 62 further comprising an electrode surface applied to, and substantially coextensive with, opposite surfaces of each transducer material and a matching layer applied to, and substantially coextensive with, one of the electrode surfaces.

73. The method of Claim 72 wherein the matching layer comprises a polymeric material and optionally a filler.

74. The method of Claim 73 wherein the polymeric material is selected from the group consisting of thermoplastics, thermosets, rubbers, epoxy and mixtures thereof.

75. The method of Claim 73 wherein the matching layer includes a filler selected from the group consisting of PZT, tungsten, alumina, silica glass, tungsten carbide and titanium.

76. The method of Claim 73 wherein the matching layer includes glass powder as a filler.

77. The ultrasound bandage of Claim 72 wherein the matching layer has an acoustic impedance of from about 2.0 to about 7.0 MRayls.

78. The method of Claim 72 further comprising applying a coupling pad to, and substantially coextensive with, the matching layer

79. The method of Claim 78 wherein the coupling pad is a hydrogel pad.

80. The method of Claim 78 wherein the coupling pad is configured as a wedge to direct a longitudinal wave from each transducer material off-axis for to an internal designated reflection site and/or for modal conversion.

81. The method of Claim 62 wherein the connector assemblies comprise connectors and leads.

82. A method for accelerating the healing of wounds comprising:

a) positioning at least one ultrasound bandage adjacent to a body at the site of a wound;

b) the ultrasound bandage comprising:

I) a backing layer possessing upper and lower surfaces;

ii) an adhesive layer applied to, and substantially coextensive with, the lower surface of the backing layer; and,

iii) a transducer material disposed on at least a portion of the adhesive layer; and,

c) causing the transducer material to generate ultrasonic pulses.

83. The method of Claim 82 wherein at least one ultrasound bandage is positioned adjacent to a body at a plurality of sites of wounds.

84. The method of Claim 82 further comprising applying an electrode surface to, and substantially coextensive with, opposite surfaces of the transducer material, applying a matching layer to, and substantially coextensive with, one of the electrode surfaces and applying a coupling pad configured as a wedge to the matching layer.

85. A method for accelerating the healing of wounds comprising:

a) positioning at least one ultrasound transducer array bandage adjacent to a body at the site of a wound;

b) the ultrasound transducer array bandage comprising:

I) a backing layer possessing upper and lower surfaces;

ii) an adhesive layer applied to, and substantially coextensive with, the lower surface of the backing layer; and,

iii) an array comprising a plurality of transducer materials arranged in adjacent relation to define spaces therebetween, the array being disposed on at least a portion of the adhesive layer and,

c) causing the plurality transducer materials to generate ultrasonic pulses.

86. The method of Claim 85 wherein at least one ultrasound transducer array bandage is positioned adjacent to a body at a plurality of sites of wounds.

87. The method of Claim 85 further comprising applying an electrode surface to, and substantially coextensive with, opposite surfaces of each transducer material, applying a matching layer to, and substantially coextensive with, one of the electrode surfaces and applying a coupling pad configured as a wedge to the matching layer.